

THREE NEW SUBSPECIES OF *QUEDIUS* (*MICROSAURUS*) *BEESONI* GROUP FROM SICHUAN, CHINA (COLEOPTERA, STAPHYLINIDAE, STAPHYLININAE)

ZHENG Fa-Ke¹, LI Yu-Jie¹, YANG Li-Hong²

1. Life Science College, China West Normal University, Nanchong 637002, Sichuan, China

2. Institute of Zoology, Minyang Normal University, Minyang 621000, Sichuan, China

Abstract Three new subspecies of the *Quedius* (*Microsaurus*) *beesoni* group from Sichuan, China, *Q.* (*M.*) *noboruioi beichuanensis*, *Q.* (*M.*) *noboruioi piankouatilis*, and *Q.* (*M.*) *noboruioi erlangshanus* are described and illustrated. *Q.* (*M.*) *beesoni* Cameron is recorded for the first time from Chongqing, China. A key to the Chinese species of the *beesoni* group is provided.

Key words Staphylinidae, *Quedius*, *beesoni* group, new subspecies, China.

The *Quedius* (*Microsaurus*) *beesoni* group includes five species, four occur in China, one in Himalayan Region.

In this paper, three new subspecies of the group from Sichuan, China, *Q.* (*M.*) *noboruioi beichuanensis*, *Q.* (*M.*) *noboruioi piankouatilis*, and *Q.* (*M.*) *noboruioi erlangshanus* are described and illustrated. *Q.* (*M.*) *beesoni* Cameron is recorded for the first time from Chongqing municipality, China. A key to the Chinese species of this group is provided.

The type specimens are deposited in the Life Science College, China West Normal University, Nanchong, Sichuan, China.

Key to the Chinese species of the *beesoni* group

1. Posterior puncture of the sublateral rows on the pronotum situated before or at the level of the large lateral puncture 2
Posterior puncture of the sublateral rows on the pronotum situated behind the level of the large lateral puncture 7
2. Surface between punctures of the elytra with microsculpture
..... *Quedius* (*Microsaurus*) *acco* **Smetana**
Surface between punctures of the elytra without microsculpture 3
3. Wings reduced, slightly longer than elytra. Tergite 7 of abdomen lacking whitish apical fringe *Q.* (*M.*) *noboruioi* **Hayashi**
Wings fully developed, evidently longer than elytra. Tergite 7 of abdomen with whitish apical fringe 4
4. Antennae whitish yellow at apical portion 5
Antennae reddish brown at apical portion 6
5. Antennae with three basal segments reddish brown, following three segments slightly paler, last five whitish yellow
..... *Q.* (*M.*) *antennalis* **Cameron**
Antennae with five basal segments black, last six whitish yellow
..... *Q.* (*M.*) *noboruioi erlangshanus* **spp. nov.**
6. Abdominal segments 7–9 brownish black to black
..... *Q.* (*M.*) *noboruioi beichuanensis* **spp. nov.**
Apical half of abdominal segment 7, entire segment 8 and genital segment reddish yellow *Q.* (*M.*) *noboruioi piankouatilis* **spp. nov.**
7. Antennae entirely black *Q.* (*M.*) *beesoni* **Cameron**
Antennae reddish brown to brownish black, last four segments distinctly paler *Q.* (*M.*) *sh* **Smetana**

Quedius (*Microsaurus*) *noboruioi beichuanensis* **spp. nov.** (Figs. 1–7, 8–9)

Holotype ♂, China, Sichuan, Xiaozhaizigou Nature Reserve, Beichuan County (31° 50'–32° 10' N, 103° 45'–104° 10' E; 1 550 m), 15 Sept. 2002, collected by YANG Li-Hong. Paratypes: 3 ♂♂, 2 ♀♀, same data as the holotype; 2 ♂♂, 6 ♀♀, Tangjiahe Nature Reserve, Qingchuan County (32° 32'–32° 41' N, 104° 36'–104° 53' E; alt. 1 150–3 864 m), 3–26 Sep. 2004, collected by LIU Kun; 1 ♂, 2 ♀♀, Piankou Nature Reserve, Beichuan County (32° 02'–32° 12' N, 104° 10'–104° 26' E), 5 Sep. 2005, collected by WANG Gui-Cui; 1 ♂, 1 ♀, 13–20 Sep. 2005, locality and collector ditto.

Diagnosis. The species is similar to the nominate subspecies, *Q.* (*M.*) *noboruioi noboruioi* Hayashi from Taiwan, but can be recognized by fully developed wings, abdominal tergite 7 bearing whitish apical fringe, and deeply emargination of basal margin of abdominal tergites 10 in both sexes.

Description. Body black. Maxillary and labial palpi reddish brown; antennae dark reddish brown, becoming gradually paler toward apex; legs brownish black with paler tarsi.

Body length 9.9–12 mm.

Head wider than long (ratio 1.38), widest at about middle; distinctly narrowed posteriorly behind eyes, posterior angles obsolete; eyes large and convex, temples shorter than length of eyes (ratio 0.75); anterior frontal puncture closer to margin of eye than posterior frontal puncture to it, posterior frontal puncture separated from it by distance slightly shorter than diameter of puncture, two to three setiferous punctures between posterior frontal puncture and posterior margin of head; surface of head with very fine and dense microsculpture of transverse waves. Antennae almost reaching posterior margin of pronotum when reclined, all segments long than wide,

This project was supported by National Natural Science Foundation of China (30240082 and 30470218), Sichuan Department of Science and Technology (02NY029-078), and Sichuan Province Point Developments Item (SZD0420).

Received 5 Aug. 2007, accepted 10 Nov. 2007.

segment 3 longer than segment 2, remaining segments gradually shorter.

Pronotum broader than head (ratio 1.31), wider than long (ratio 1.28), widest at about basal two fifths, anterior angles angulate, posterior angles rounded, lateral portions slightly flattened; dorsal rows each with three punctures; sublateral rows each consisting of one or two punctures, posterior puncture situated before level of large lateral puncture, microsculpture similar to that on head, but finer and denser.

Scutellum with sculpture consisting of irregular transverse rugae on middle of basal portion; impunctate.

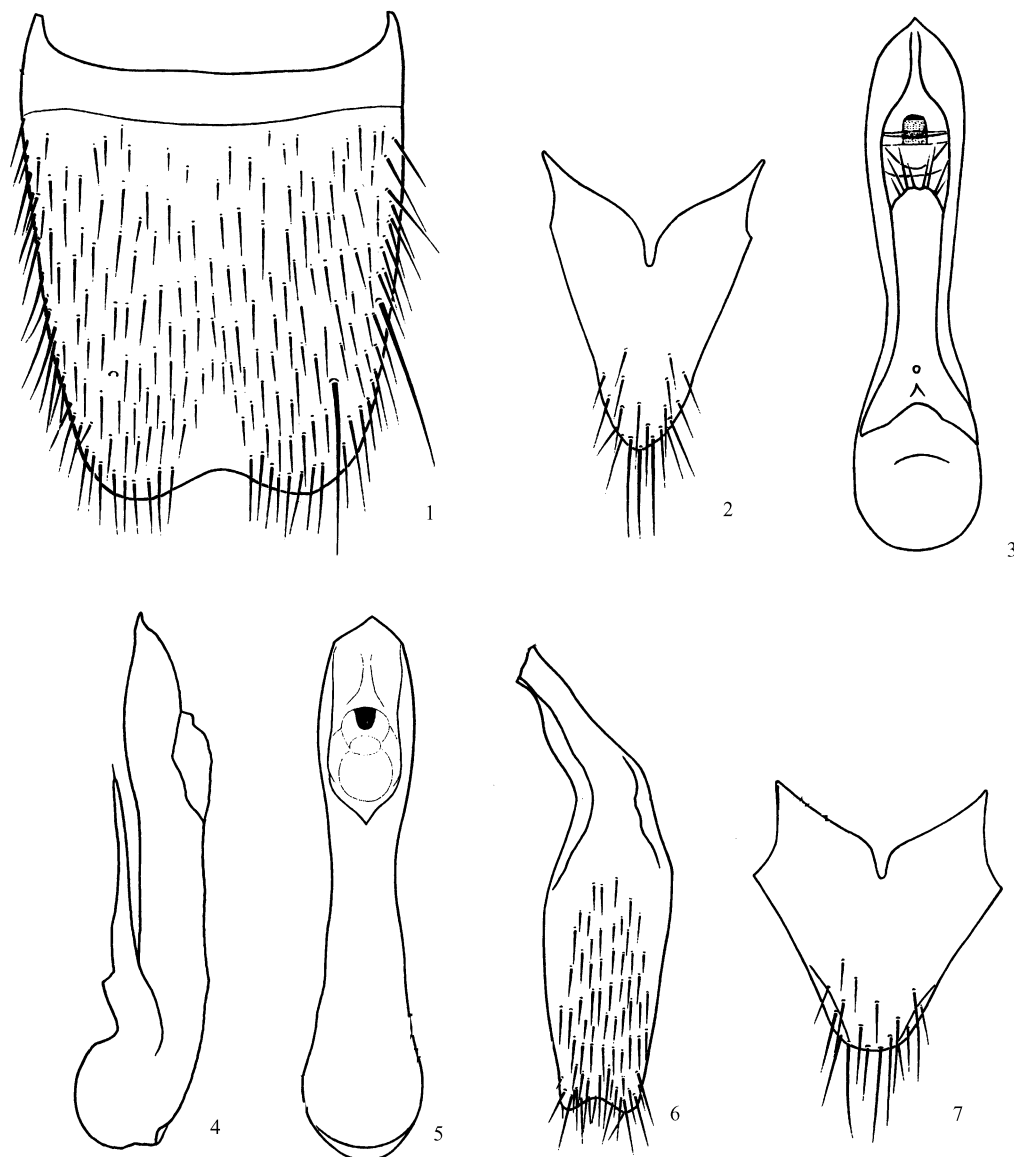
Elytra as long as and slightly narrower than pronotum (ratio 0.9), feebly broader than long (ratio 0.08); punctuation coarse, moderately dense, pubescence black brownish to black; surface between punctures without microsculpture; wings fully developed.

Legs with segments 1-4 of protarsus strongly widened.

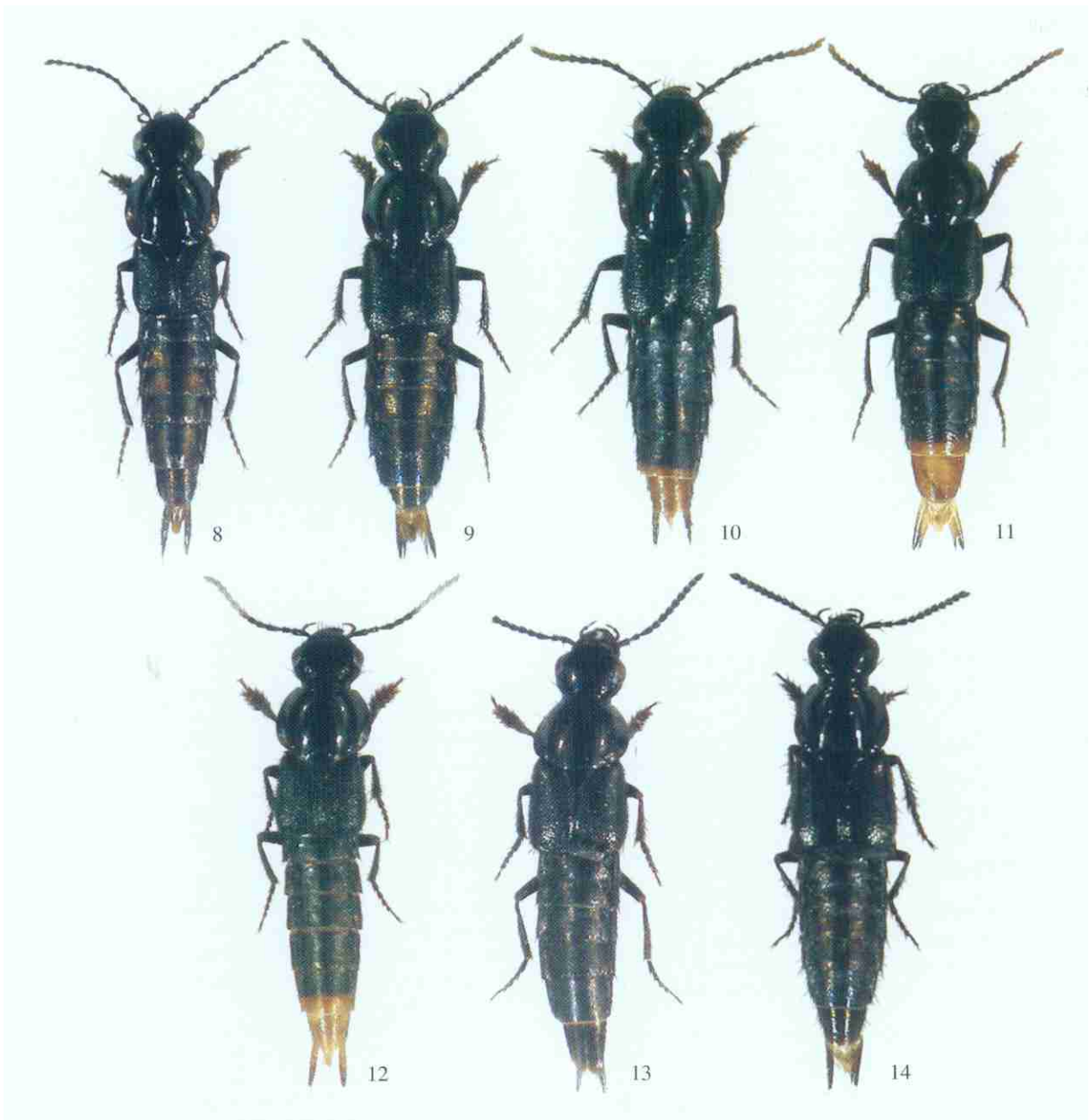
Abdomen with tergite 7 bearing whitish apical fringe; punctuation of abdominal tergites slightly finer and sparser than that on elytra, pubescence brownish black to black; surface between punctures with indistinct microsculpture of transverse striae.

Male. Sternite 8 with two long, strong setae on each side, with slightly shallow, arcuate emargination in middle of posterior margin, small triangular area before emargination smooth; tergite 10 large, strongly narrowed toward arcuate apex, with numerous setae on apical part, deeply emarginate at basal margin; sternite 9 slightly emarginate at middle of posterior margin, densely setaceous.

Aedeagus elongate, median lobe gradually dilated into robust, large apical part. Paramere slightly dilated



Figs 1-7. *Quatius* (*Microsaurus*) *nobonittoi bachuanensis* ssp. nov. 1-6 (male). 1. Sternite 8. 2. Tergite 10. 3-5. Aedeagus (3. Ventral view. 4. Lateral view. 5. Dorsal view). 6. Sternite 9. 7. Female tergite 10.



Figs 8-9. *Quedius* (*Microsaurus*) *noboruioi beichuanensis* ssp. nov. 8. Male. 9. Female. Figs 10-11. *Quedius* (*Microsaurus*) *noboruioi piankouatilis* ssp. nov. 10. Male. 11. Female. Figs 12. *Quedius* (*Microsaurus*) *noboruioi erlangshanus* ssp. nov. (male). Figs 13-14. *Quedius* (*Microsaurus*) *besoni* Cameron (13. Male. 14. Female) new record to Chongqing municipality, China.

anteriorad, apex distinct not reaching apex of median lobe, apical margin with minute median projection or emarginate, eight long setae at apex; underside of paramere without sensory peg setae.

Female. Segments I-4 of protarsus similar to those of male, but slightly less dilated. Tergite 10 strongly narrowed toward widely arcuate apex, with numerous setae on apical part, deeply emarginate at basal margin.

Habitat and distribution. The subspecies was found in haystack. It is known only from Xiaozhaizigou Nature Reserve, Beichuan County and Tangjiahe Nature Reserve, Qingchuan County, Sichuan Province, China.

Etymology. The specific epithet refers to the type

locality, Beichuan.

Quedius (*Microsaurus*) *noboruioi piankouatilis* **ssp. nov.** (Figs. 10-11)

Holotype ♂, China, Sichuan, Piankou Nature Reserve, Beichuan County (32°02'-32°12' N, 104°10'-104°26' E), 13-20 Sept. 2005, collected by WANG Cui Cui. Paratypes: 1 ♂, 1 ♀, same data as the holotype; 1 ♀, Tangjiahe Nature Reserve, Qingchuan County (32°32'-32°41' N, 104°36'-104°53' E, alt. 1 150-3 864 m), 3-26 Sep. 2004, collected by LIU Kun.

Diagnosis. The subspecies is similar to the nominate subspecies, *Q.* (*M.*) *noboruioi noboruioi* Hayashi from

Taiwan and *Q. (M.) noboruitoi beichuanensis* from Beichuan and Qingchuan Counties, but can be recognized by apical half of abdominal segment 7, segment 8 and genital segment reddish yellow.

Habitat and distribution. The species was found in haystack. It is known only from Piankou Nature Reserve, Beichuan County, and Tangjiahe Nature Reserve, Qingchuan County, Sichuan Province, China.

Etymology. The specific epithet refers to the type locality, Piankou.

Quedius (Microsaurus) noboruitoi erlangshanensis **ssp. nov.** (Fig. 12)

Holotype ♂, China, Sichuan, Erlang Mountain, Tianquan County (29°49'-30°13' N, 102°17'-102°37' E), 20-28 Aug. 2005, collected by LI YurJie. **Paratypes** 2 ♂♂, same data as holotype.

Diagnosis. The subspecies is similar to the nominate subspecies, *Q. (M.) noboruitoi noboruitoi* Hayashi from Taiwan, *Q. (M.) noboruitoi beichuanensis* from Beichuan and Qingchuan Counties and *Q. (M.) noboruitoi piankouatilis* from Beichuan County, but can be recognized by antennae with five basal segments black, last six whitish yellow.

Habitat and distribution. The species was found in haystack. It is known only from Erlang Mountain, Tianquan County, Sichuan, China.

Etymology. The specific epithet refers to the type locality, Erlangshan.

Quedius (Microsaurus) beesoni **Cameron New records to Chongqing municipality** (Figs. 13-14)

Cameron, 1932: 285; Schrempeltz, 1933: 1433; Smetana, 1988: 196, 1995: 31, 1996: 2, 1999: 214; Herman, 2001: 3109; Löbl & Smetana, 2004: 657.

Q. mindius Cameron, 1932: 286; *Q. notabilis* Cameron, 1932: 286; *Q. praefinis* Cameron, 1932: 286; *Q. sungkangensis* Hayashi, 1992: 11.

Specimens examined. Chongqing municipality: 2 ♂♂, 1 ♀, Jinpo Mountain, Nanchuan City,

collected by XIONG Xue-Long. Sichuan: 1 ♂, 2 ♀♀, Erlang Mountain, Tianquan County (29°49'-30°13' N, 102°17'-102°37' E), 20-28 Aug. 2005, collected by LI YurJie.

Comments. This is first records of *Q. (M.) beesoni* Cameron from the Chongqing municipality, China. It is at present known from Chinese Fujian, Guangxi, Hubei, Sichuan, Shanghai, and Taiwan, also from India and Nepal.

Acknowledgments We are grateful to Dr. Ales Smetana of the Agriculture and Agri-Food Canada, Research Branch, Central Experiment Farm, Ottawa, for his kind help with the literature and specimens. We are very grateful to Dr. Lee H. Herman, Curator, Division of Invertebrate Zoology, American Museum of Natural History, who gave us kind help with the literatures.

REFERENCES

- Cameron, M. 1932. The fauna of British India, including Ceylon and Burma Coleoptera. Staphylinidae. 3: xiii + 1443. Taylor and Francis, London.
- Herman, L. H. 2001. Catalog of the Staphylinidae (Insecta: Coleoptera). 1758 to the end of the second millennium. I - VII. *Bulletin of the American Museum of Natural History*, 265: 1-4218.
- Löbl, I. and Smetana, A. 2004. Catalogue of Palaearctic Coleoptera. 2: 1-942.
- Smetana, A. 1988. Revision of the tribes Quediini and Tanygnathini. Part II. The Himalayan region (Coleoptera: Staphylinidae). *Questiones Entomologicae*, 24 (2): 163-464.
- Smetana, A. 1995. Revision of the tribes Quediini and Tanygnathini. Part III. Taiwan. (Coleoptera: Staphylinidae). *National Museum of Natural Science, Special Publication Number*, 6: 1-145.
- Smetana, A. 1996. Contributions to the knowledge of the Quedina (Coleoptera, Staphylinidae, Staphylinini) of China. Part 3. Genus *Quedius* Stephens, 1829. Subgenus *Microsaurus* Dejean, 1833. Section 3. *Bulletin of the National Science Museum*, (A) 22 (1): 1-20.
- Smetana, A. 2002. Contributions to the knowledge of the Quedina (Coleoptera, Staphylinidae, Staphylinini) of China. Part 22. Genus *Quedius* Stephens, 1829. Subgenus *Microsaurus* Dejean, 1833. Section 12. *The Japanese Society of Coleopterology*, 30 (1): 137-151.

中国颊脊隐翅虫属比桑颊脊隐翅虫群三新亚种 (鞘翅目, 隐翅虫科, 隐翅虫亚科)

郑发科¹ 李玉杰¹ 杨丽红²

1. 西华师范大学生命科学院 南充 637002

2. 绵阳师范学院动物研究所 绵阳 621000

摘要 记述中国四川颊脊隐翅虫属 *Quedius* 比桑颊脊隐翅虫群 (*beesoni* group) 3 新亚种, 北川颊脊隐翅虫 *Q. (M.) noboruitoi beichuanensis*, 片口颊脊隐翅虫 *Q. (M.) noboruitoi piankouatilis*, 二郎山颊脊隐翅虫 *Q. (M.) noboruitoi erlangshanensis*。

关键词 颊脊隐翅虫属, 比桑颊脊隐翅虫群, 新亚种, 中国。
中图分类号 Q69.484.4

首次记录来自中国重庆的比桑颊脊隐翅虫 *Q. (M.) beesoni* Cameron。列出了比桑颊脊隐翅虫群中国已知种和亚种检索表。